MOODY'S
INVESTORS SERVICE

SECTOR IN-DEPTH
11 April 2019

Rate this Research

TABLE OF CONTENTS

Contacts

Benjamin Nelson +1.212.553.2981
VP-Sr Credit Officer
benjamin.nelson@moodys.com

Dawei Ma, CFA, ACA +1.212.553.6094
Associate Analyst
dawei.ma@moodys.com

Toby Shea +1.212.553.1779
VP-Sr Credit Officer
toby.shea@moodys.com

Brian Oak +1.212.553.2946
MD-Corporate Finance
brian.oak@moodys.com

Coal - North America

Weak business prospects in Powder River Basin will continue in 2019

» **The Powder River Basin (PRB) of eastern Wyoming and Montana, the largest US coal-producing region, faces difficult business conditions today, with no clear solution in sight.** The US coal sector is in secular decline as it competes with natural gas and struggles against strong environmental regulations, and inexpensive natural gas and emissions controls at power plants. These factors have made PRB's low-sulfur coal less competitive. Export opportunities are also less significant compared to other basins due to logistical difficulties, including public opposition to exporting coal from the US west coast. A lack of consolidation in the PRB suggests that the region's economics will not improve on a sustainable basis despite production cuts by major producers in the PRB and stronger market conditions in other major coal basins. Arch Coal, Peabody Energy and Cloud Peak Energy Resources are the major rated producers in the region. Westmoreland has operations in the region, but recently filed for bankruptcy.

» **Major producers are throttling back production, but the industry remains fragmented and some smaller producers are still increasing production.** Higher-heat coals are faring somewhat better than lower-heat coals in the basin, due to an expanding price premium, but margins for rated producers have softened and production cuts are planned for 2019. Three producers represent about three quarters of production in the basin. Arch Coal and Peabody have announced plans to cut production for 2019. Cloud Peak continues to struggle with operational issues and a financially distressed balance sheet. The EIA expects that coal production in the Western region, which includes the PRB, will fall by nearly 10% in 2019.

» **Consolidation is not likely in the near term.** Peabody and Arch are focusing their efforts on producing metallurgical (met) coal, a key component in steelmaking and a stronger market today than thermal coal, and have shown little interest in consolidating the basin. Their balance sheets are far stronger than that of the only rated pure-play PRB producer, Cloud Peak, which is now evaluating strategic alternatives, including selling itself, but its high costs and less productive mines make it an unattractive buying target unless it restructures its considerable debt load.

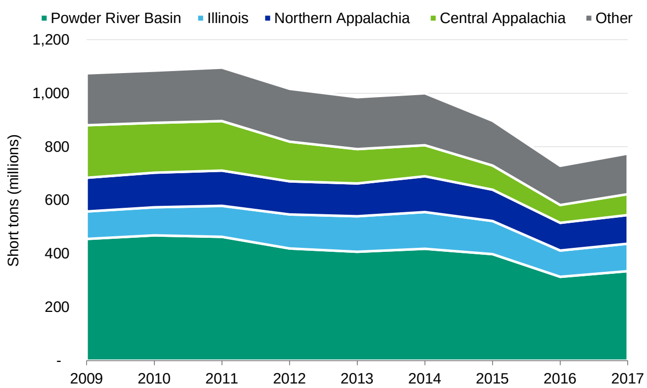
PRB is weakest major coal basin in declining US coal industry

The Powder River Basin (PRB) of eastern Wyoming and Montana, the largest US coal-producing region, faces difficult business conditions today, with no clear solution in sight. Deteriorating business conditions in the PRB have led to production cuts by some major producers, financial stress for producers with weaker credit quality, and a very difficult market for lower-heat coals (8,400 BTU or below). Arch Coal (Ba3 stable) and Peabody Energy (Ba3 stable) both guided toward lower production in the basin for 2019. Cloud Peak Energy Resources (Ca stable) is trying to overcome recent production issues, but missed an interest payment and likely will restructure in the near term.

The US coal industry is facing long-term secular decline driven by a combination of low-cost natural gas, tighter regulations, and a trend toward more renewable energy. Coal production fell by about a third over the past decade with significant regional variation. Central Appalachia (CAPP) has seen the most devastation with a 60% reduction in production from 2009-2017 and its share of the market tell to 10% from 18% over same horizon. CAPP ceded market share to the Illinois Basin and Northern Appalachia. The PRB, the largest coal-producing region in the US by volume, saw significant declines in production and remains vulnerable to continued switching to natural gas, even while holding a consistent share of the US coal market (see Exhibits 1-2).

Exhibit 1

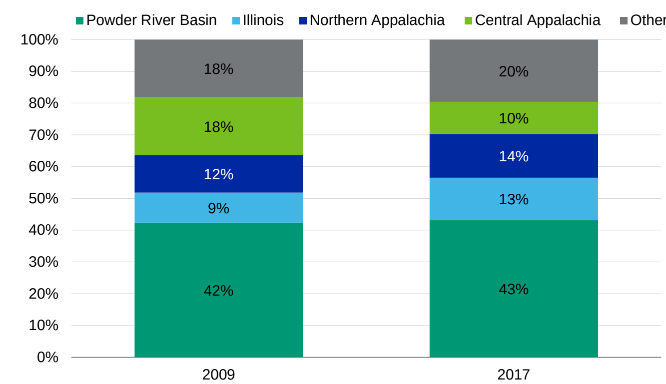
USl coal production fell significantly over the past decade...



Source: US Energy Information Administration (EIA)

Exhibit 2

...with CAPP expericing the most significant share loss.

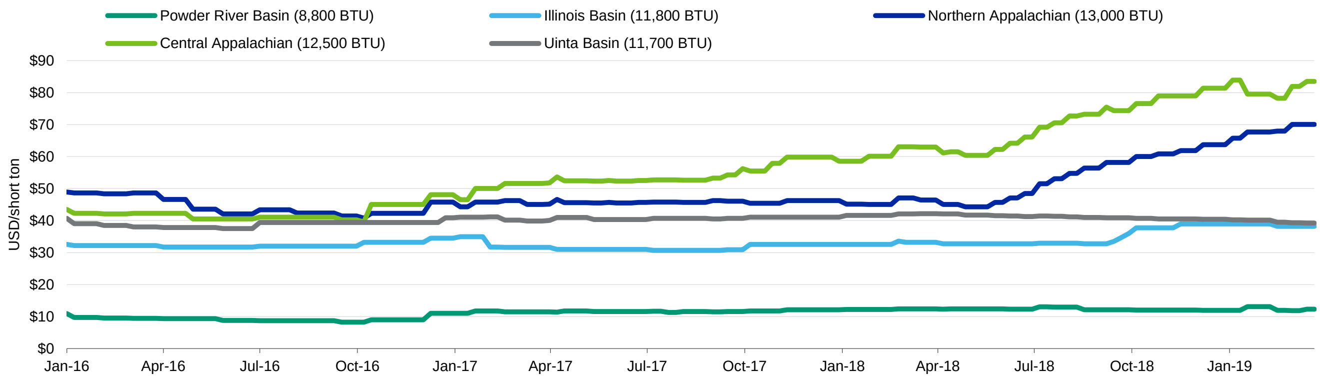


Source: EIA

Several factors make PRB especially vulnerable to the coal industry's decline. PRB's low-sulfur coal gained significant market share after the US adopted stricter emissions rules in the 1990s, but, since the early 2000s, regulators have required power generators to install scrubbers on new power plants. Combined with upgrades to existing plants and closures of older units, an increasing portion of power plants have been able to handle higher sulfur coal. Production of ILB coal, which tends to have high sulfur levels, has actually increased since 2009, as scrubbers have effectively made this high-heat coal more attractive on a relative basis. PRB's low-heat, low-sulfur coal is particularly vulnerable to switching because the smaller, unscrubbed power plants are more likely to retire in the coming years (see Exhibit 3).

Exhibit 3

PRB pricing remains flat while Appalachian pricing is up significantly



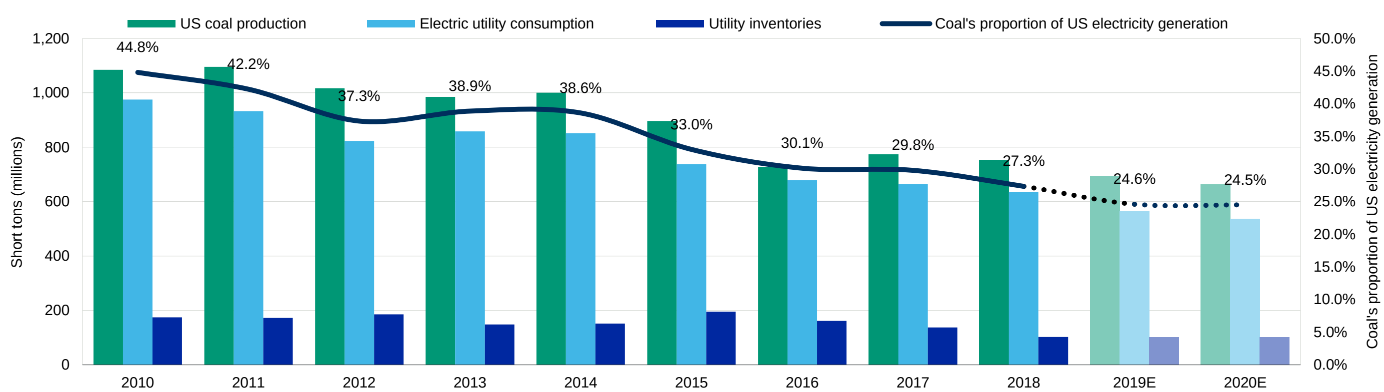
Source: EIA

Our base-case assumption of \$2.50-3.50/MMBTU gas prices at the Henry Hub US benchmark through 2020 will make it increasingly difficult for coal to compete with natural gas. While we expect retirements of coal-fired power plants will slow in 2019 compared to 2018, we continue to expect a significant number of retirements over the next several years and, therefore, a significant reduction in demand for coal in the US. PRB is also vulnerable to the development of renewable energy, particularly wind, in a region with more abundant wind resources than other coal-producing basins.

Producers in the PRB also have limited export opportunities compared to producers in the eastern US basins. The combined effect of reduced production in recent years and significantly more exports in the past couple years have led to stronger pricing for eastern coal (see Exhibit 4). Logistical constraints make PRB exports more difficult, with limited port capacity and social opposition to coal exports from western ports. Transportation costs comprise a large proportion of PRB coal's total delivered cost as its low heat content means more tons are needed. As a result, most PRB coal is sold within the US and that is unlikely to change in the medium term.

Exhibit 4

Domestic demand for thermal coal continues to fall, but increased exports have tightened inventories



Source: EIA

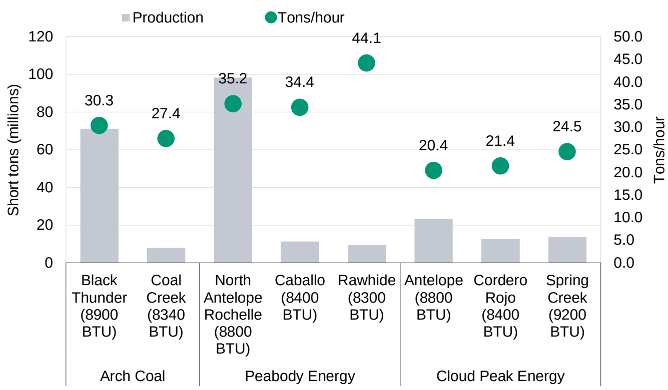
Big producers throttling back production, while smaller producers ramp up

Rated coal producers saw weaker profitability from the PRB in 2018. In response to weakening market conditions, Peabody and Arch Coal plan to reduce production in the basin, where they operate the most productive mines (see Exhibits 6). Peabody plans to cut 10 million tons of annual production in 2019 from its higher-quality (8,800 BTU) and higher-cost coal from the North Antelope Rochelle mine. Arch plans to throttle back the Coal Creek mine, which produces lower heat coal, and focus on the Black Thunder mine, which produces higher heat coal. Higher-heat coals have fared somewhat better with an expanding premium over lower heat coals. We place significant emphasis on understanding mines' production and productivity (see Exhibit 5 and 6), as well as cash costs and net-backs to the mines after considering freight expenses.

Exhibit 5

Mine-level production and productivity

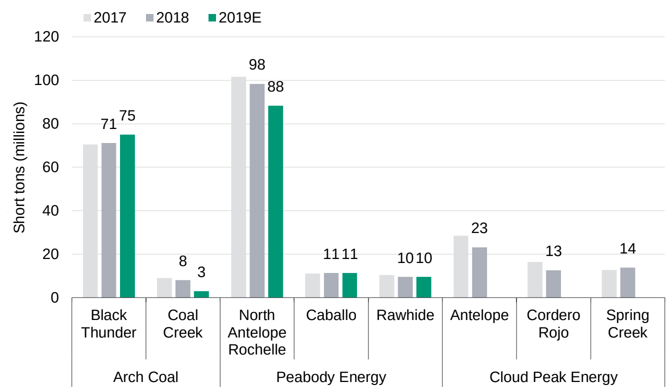
2018 production data



Source: Mine Safety and Health Administration

Exhibit 6

Historical production and guidance for 2019



Note: Cloud Peak did not give guidance for 2019. Forward view includes a combination of guidance statements and our estimates.
Source: Moody's Investors Service estimates

Cloud Peak is less diverse geographically with all operations in the PRB and only three operating coal mines. The company's Antelope mine still has production problems following heavy rains in the second quarter of 2018. Demand is weak for coal from Cloud Peak's Cordero Rojo mine, which produces lower-heat coal. In February 2019, we downgraded Cloud Peak's corporate family rating to Ca to reflect our sense that it is running out of options and the likelihood of a debt restructuring is heightened.

Some small producers coal increased production in 2018. Besides Black Hills Corporation (Baa2 stable), which consumes all the coal it produces from its Wyodak mine internally to generate power, all the other small PRB producers sell low-heat coal, which generates 8,400 BTU or less. In December 2017, Blackjewel bought Belle Ayr mine and Eagle Butte mine from Contura Energy (B2 stable), increasing production at Belle Ayr by 17% in 2018. Production also increased significantly at Lighthouse Resources' Decker mine, up 14% in 2018 from 2017 levels, and at Westmoreland's Absaloka mine (up 7%) and Western Fuels Association's Dry Fork mine (up 4%). Meanwhile, Arch Coal and Peabody, which together produce about 60% of the coal in PRB, will scale back production in 2019 in response to weak commodity prices.

Significant consolidation highly unlikely in near term

Consolidation is a logical step for a fragmented commodity industry experiencing secular decline and depressed profitability, but we expect it will be a slow process in the PRB. Major PRB producers such as Arch Coal and Peabody have shown little interest, while Cloud Peak has little ability to consolidate today. The coal industry has some unique impediments compared to other examples of consolidation that occurred in recent decades. For example, the pace of secular decline is very significant, reclamation liabilities could cause significant cash spending for a producer who buys and shuts down a mine to help improve market conditions, and the longer-term political and regulatory environment remains very uncertain.

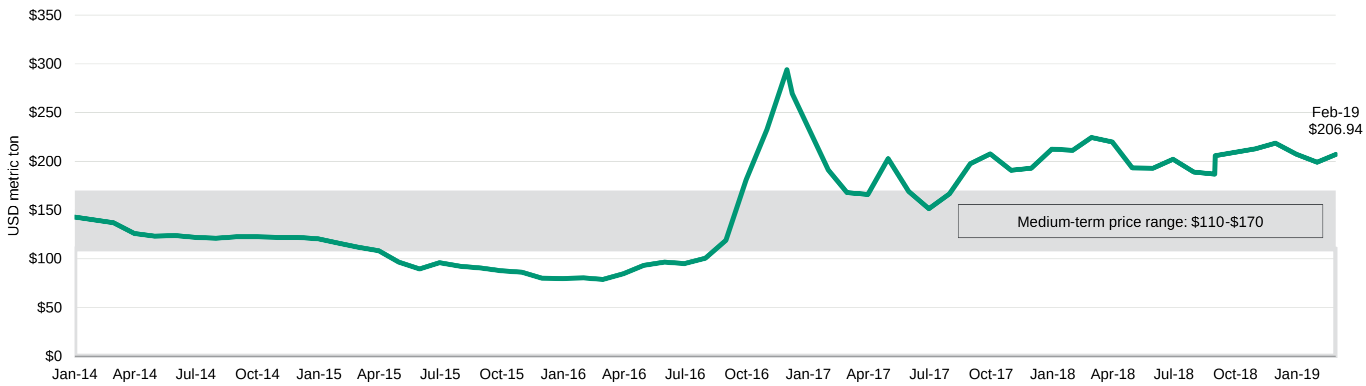
Peabody and Arch Coal have strong balance sheets today, but place emphasis on metallurgical coal and shareholder returns. Both Peabody and Arch Coal have operations in other basins, and both produce thermal and met coal, which steelmakers use to heat blast furnaces. While met coal pricing has been volatile historically, conditions have been strong with prices in early 2019 above $200/

metric ton (MT)—higher than our medium-term price range of $110-$170/MT (see Exhibit 7)—and both companies have discussed deploying capital toward leveraging the met coal market. Peabody added its Shoal Creek Mine, recently acquired from Drummond, and restarting its North Goonyella Mine in Australia, which had been taken offline following a combustion event. Arch Coal is developing its Leer South reserve to increase met coal production. Both companies' management have not expressed interest in consolidating the PRB during recent earnings calls and, as discussed earlier in the report, have adjusted to weaker market conditions by scaling back production at their own mines.

Exhibit 7

Met coal pricing is still above our medium-term price range

USD/metric ton, CFR Jingtang



Source: Metal Bulletin

Cloud Peak is focused exclusively on the PRB and announced publicly that the company is evaluating strategic alternatives. Other instances of financial distress, such as Alpha's bankruptcy that led to Blackjewel acquiring two mines from Contura in late 2017 and Westmoreland's recent bankruptcy, which led to Western Coal Acquisitions Partners' pending but approved purchase of the Kemmerer mine, resulted in new ownership rather than closed mines.

Appendix: Key financial metrics and comparisons for PRB coal producers

Exhibit 8
Revenue, margin and leverage for all rated coal producers

Company	Rating	Outlook	Revenue (millions)	EBITDA margin	Debt/ EBITDA
Teck Resources Limited	Baa3	Stable	$9,698	50.4%	0.95x
Alliance Resource Operating Partners, L.P.	Ba3	Stable	$2,003	33.3%	1.22x
Peabody Energy Corporation	Ba3	Stable	$5,582	28.4%	1.22x
Arch Coal, Inc.	Ba3	Stable	$2,452	18.3%	0.84x
CONSOL Energy Inc.	B1	Stable	$1,429	36.1%	2.14x
Conuma Coal Resources Limited (Private)	B2	Stable	$621	n/a	n/a
Warrior Met Coal, Inc.	B2	Stable	$1,378	44.6%	0.77x
Contura Energy, Inc.	B2	Stable	$2,031	15.6%	2.60x
Natural Resource Partners L.P.	B3	Positive	$251	81.7%	3.35x
Foresight Energy, LLC	B3	Stable	$1,105	28.0%	4.22x
Murray Energy Corporation (Private)	Caa1	Stable	$3,000	n/a	n/a
Bowie Resource Partners LLC (Private)	Caa1	Stable	$576	n/a	n/a
Cloud Peak Energy Resources LLC	Ca	Stable	$832	9.7%	4.40x

Data for public companies is consistent with the most recent reporting period. Data for private companies is consistent with most recent published Credit Opinion report available on Moodys.com.
Source: Moody's Financial Metrics™; Moody's Investors Service (ratings)

Moody's related publications

Outlooks:

» Base Metals - Global, Steel - US, Coal - US: 2019 outlooks stable on slowing growth (Slides), December 12, 2018

» Coal - North America: Met coal prices support stable outlook, but secular decline for thermal still looms, May 31, 2018

Sector in-depth reports:

» Coal – US: Pricing supports industry in 2019; secular decline remains medium-term risk, January 31, 2019

» Environmental Risks – Global: Heat map: 11 sectors with $2.2 trillion debt have elevated environmental risk exposure, September 25, 2018

Sector comments:

» Coal - US: High export prices drive buybacks over debt reduction and growth capital, November 26, 2018

» Coal - Global: Increasing price sensitivity ranges for seaborne metallurgical, thermal coal, October 8, 2018

Rating methodology:

» Mining, September 2018

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

REPORT NUMBER 1163008

MOODY'S
INVESTORS SERVICE